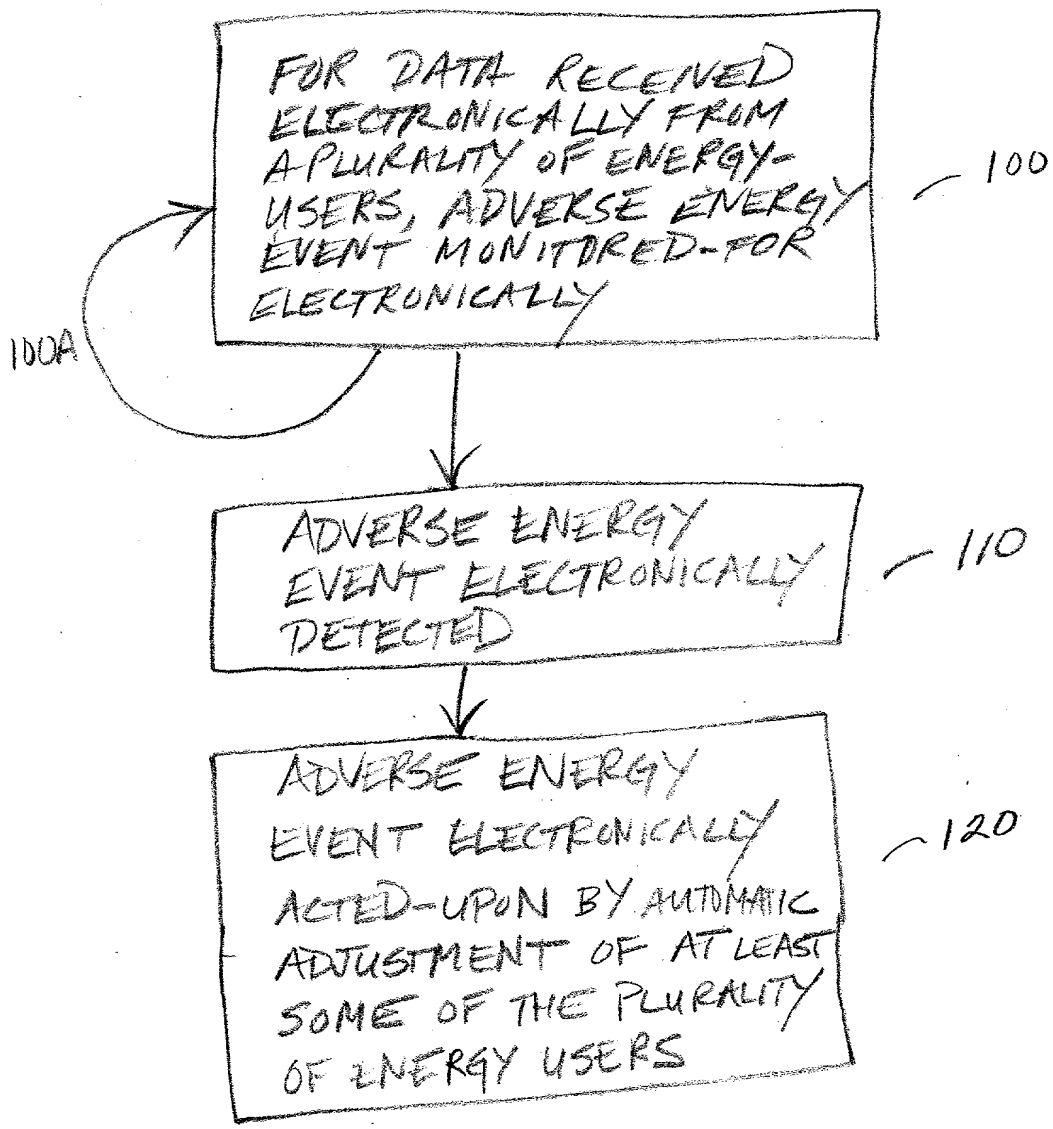
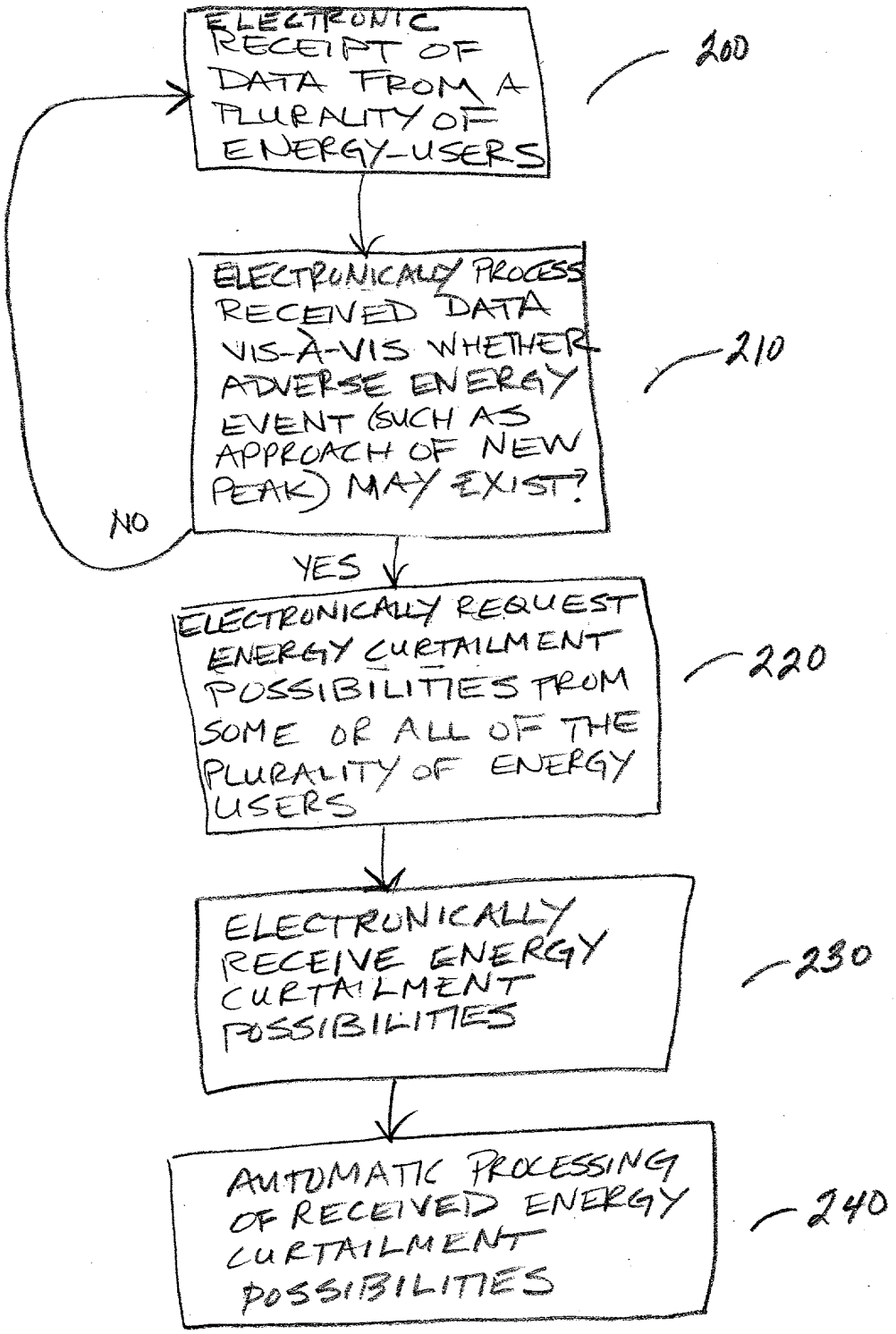
FIG. 1



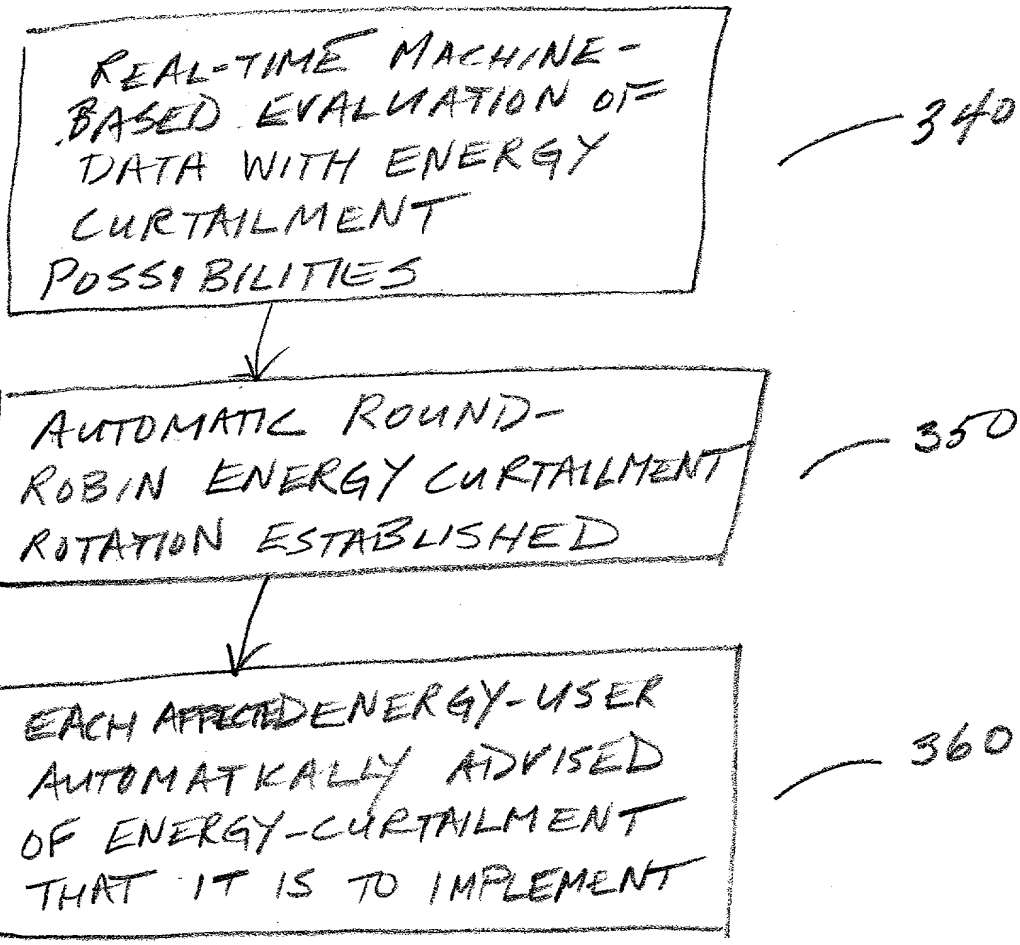
20080205.0908.0004

FIG. 2



20060230.20526001

FIG. 3



20050226004

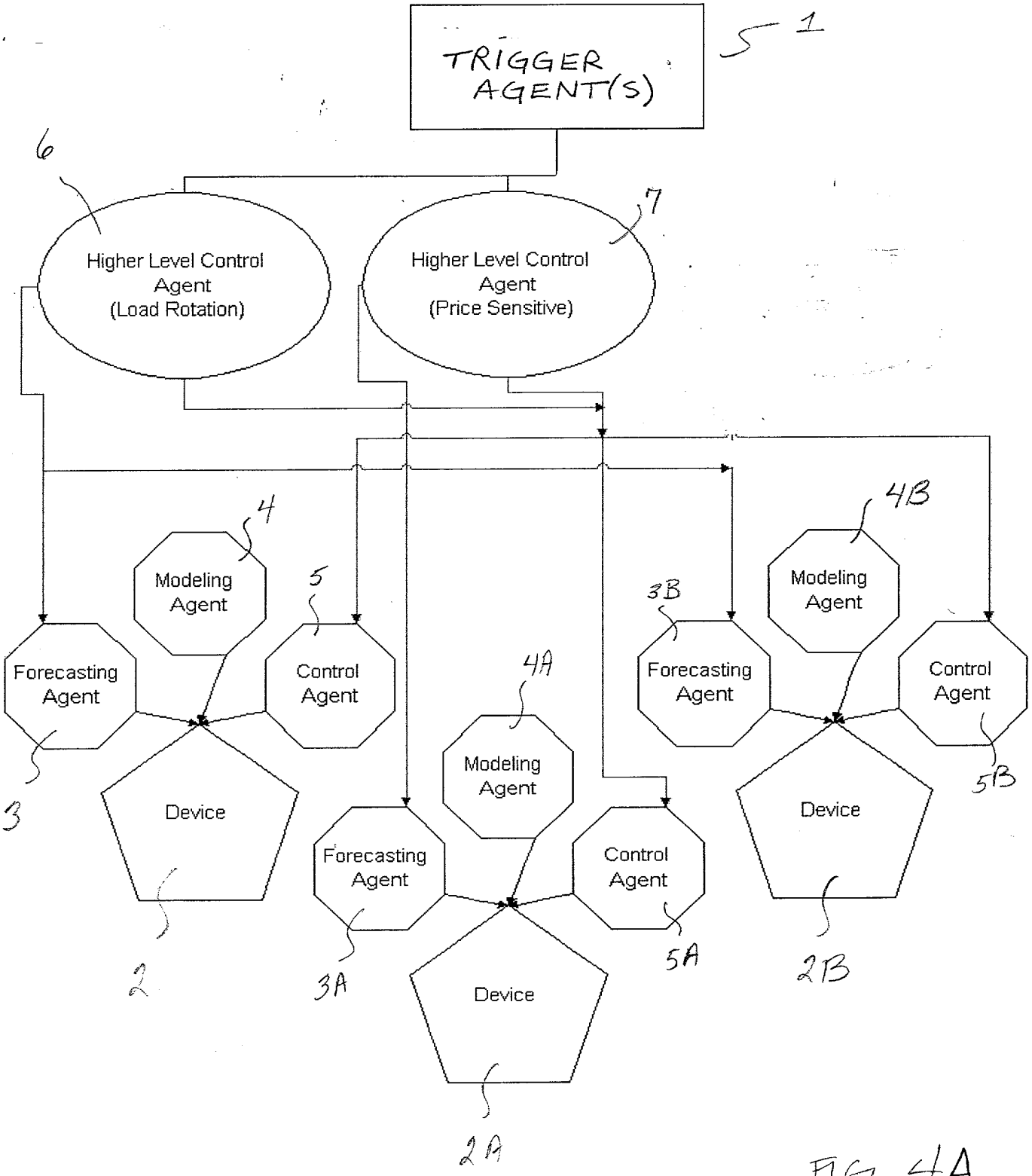

TRIGGER AGENT(S)
1
6
Higher Level Control Agent (Load Rotation)
7
Higher Level Control Agent (Price Sensitive)
4
Modeling Agent
5
Forecasting Agent
Control Agent
3
Device
2
4A
Modeling Agent
Forecasting Agent
Control Agent
3A
5A
Device
2A
4B
Modeling Agent
3B
Forecasting Agent
Control Agent
5B
Device
2B

FIG. 4A

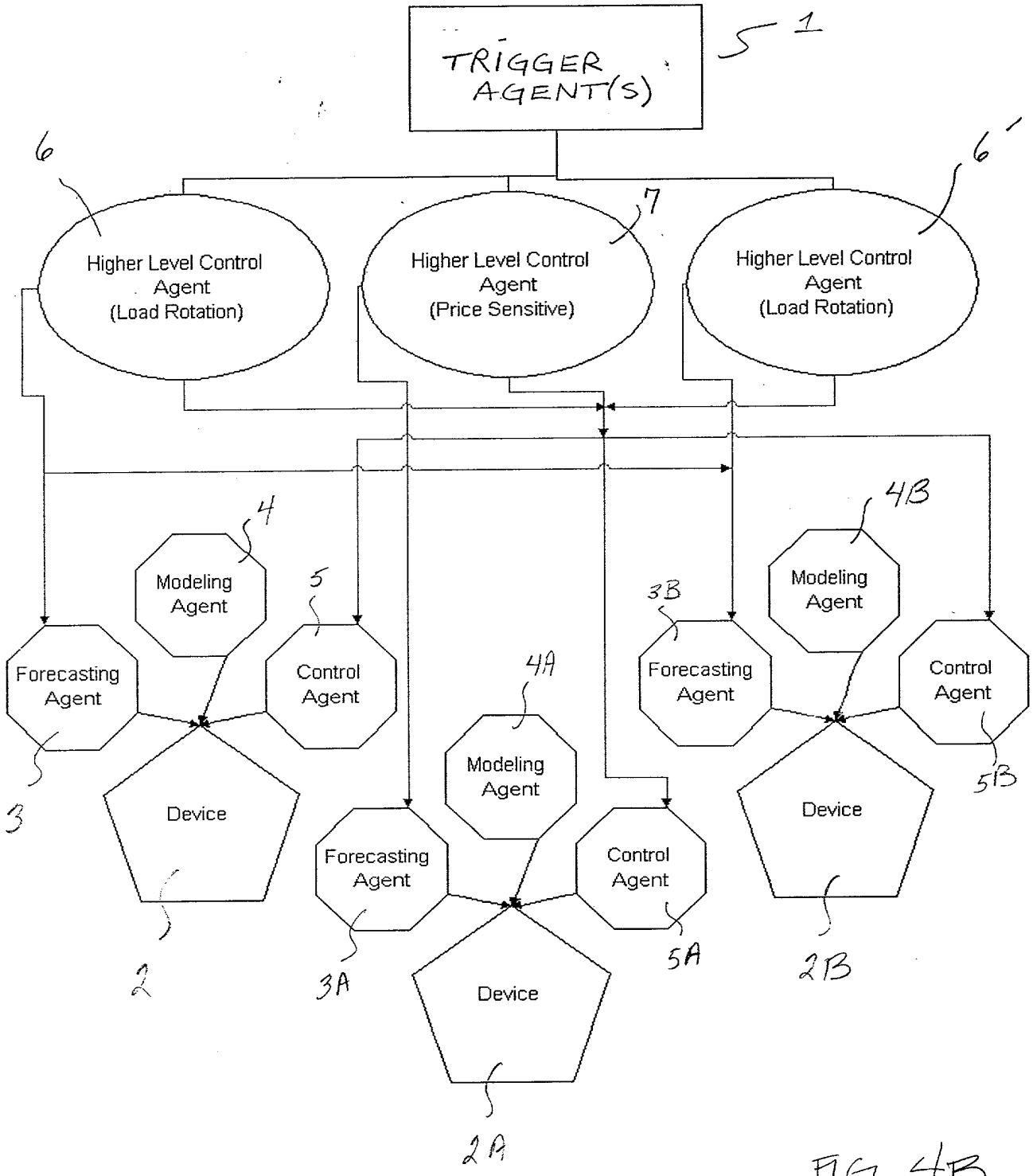

TRIGGER AGENT(S)
1
6
6'
7
Higher Level Control Agent (Load Rotation)
Higher Level Control Agent (Price Sensitive)
Higher Level Control Agent (Load Rotation)
4
4B
Modeling Agent
Modeling Agent
5
3B
Forecasting Agent
Control Agent
Forecasting Agent
Control Agent
4A
Modeling Agent
3
5B
Device
Device
Forecasting Agent
Control Agent
3A
5A
Device
2
2B
2A

FIG. 4B

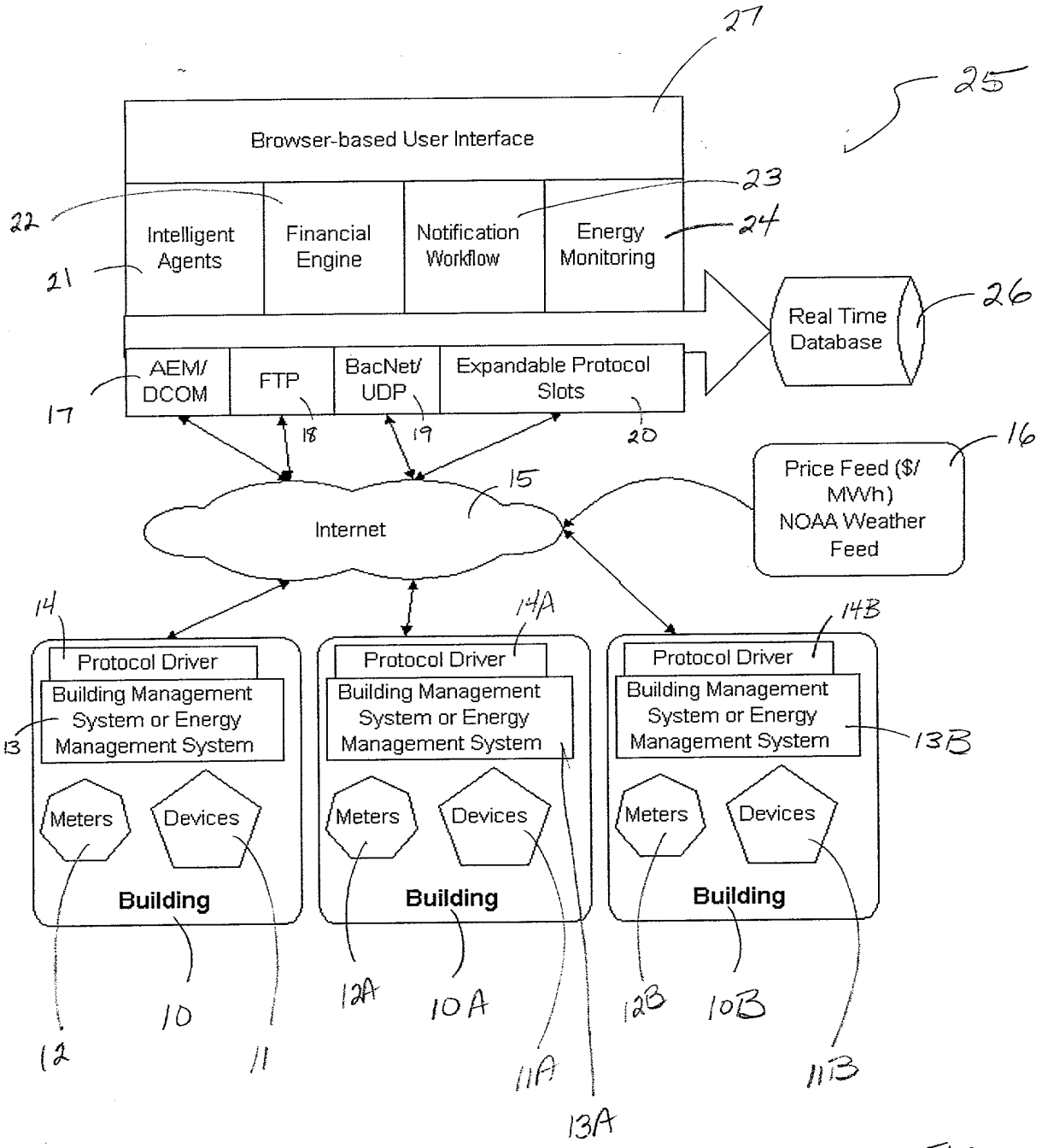
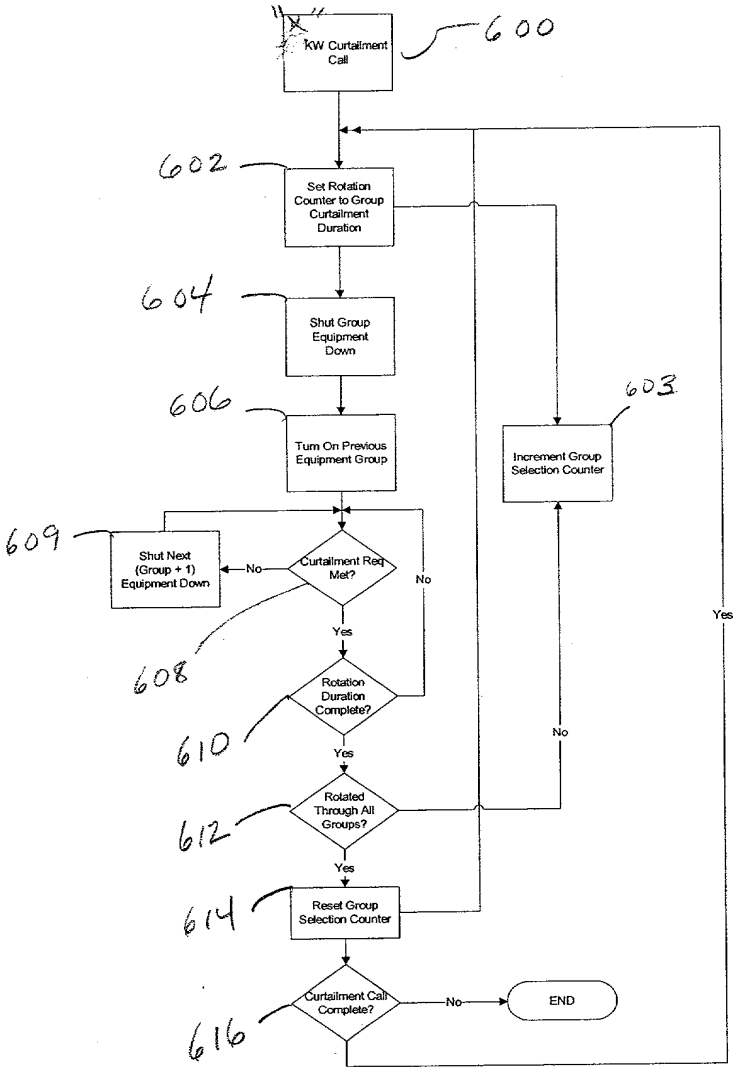

27
25
Browser-based User Interface
22
23
24
Intelligent Agents
Financial Engine
Notification Workflow
Energy Monitoring
21
Real Time Database
26
AEM/ DCOM
FTP
BacNet/ UDP
Expandable Protocol Slots
17
18
19
20
16
Price Feed ($/ MWh) NOAA Weather Feed
15
Internet
14
14A
14B
Protocol Driver
Building Management System or Energy Management System
13
13B
Meters
Devices
Building
12
10
11
12A
10A
11A
13A
12B
10B
11B

FIG. 5

FIG. 6


kW Curtailment Call
600
602
Set Rotation Counter to Group Curtailment Duration
604
Shut Group Equipment Down
606
Turn On Previous Equipment Group
603
Increment Group Selection Counter
609
Shut Next (Group + 1) Equipment Down
No
Curtailment Req Met?
No
Yes
608
Rotation Duration Complete?
610
Yes
No
Rotated Through All Groups?
612
Yes
Yes
Reset Group Selection Counter
614
Curtailment Call Complete?
No
END
616

DCM-2A Load Rotation
"Round Robin" Approach

Rotation Schedule / Matrix Example

Rotation Group	Equipment ID	Controlled Device ID	Manual / Auto Indication Address	Equipment Status Address	Curtailable Demand Setpoint (kW)	Curtailable Demand (kW)	On/Off Control Address	On/Off Control Command	Kw Reset Control Address	Kw Reset Control Command	Min Equipment Off Time (min)	Max Curtailment Duration (min)	Settling Duration (min)	Revenue Meter Address	Process 1 Limit Address	Process 1 Limit Min Range	Process 1 Limit Max Range	Process 2 Limit Address	Process 2 Limit Min Range	Process 2 Limit Max Range	Process 3 Limit Address	Process 3 Limit Min Range	Process 3 Limit Max Range	Equip Meter Address	AND Inclusions	OR Exlusions
1	Fountain01	Pump	100	N/A	0	30	101	1	N/A	N/A	30	240	0	10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	102	N/A	N/A
2	AHU01	Reheat Bank	120	N/A	0	15	121	1	N/A	N/A	10	30	0	20	122	65F	70F	N/A	N/A	N/A	N/A	N/A	N/A	123	AHU01	N/A
2	AHU02	Reheat Bank	140	N/A	0	15	141	1	N/A	N/A	10	30	0	20	142	65F	70F	N/A	N/A	N/A	N/A	N/A	N/A	143	AHU02	N/A
3	AHU01	SF VFD	160	161	10	10	162	1	163	0.30	10	15	2	20	165	70F	78F	167	30%	80%	169	0ppm	1200ppm	170	N/A	N/A
3	AHU02	SF VFD	180	181	10	10	182	1	183	0.35	10	15	2	20	185	70F	78F	187	30%	80%	189	0ppm	1200ppm	190	N/A	N/A
3	AHU04	SF VFD	200	201	10	10	202	1	203	0.20	10	15	2	20	205	70F	78F	207	30%	80%	209	0ppm	1200ppm	210	N/A	AHU05
4	AHU03	SF VFD	220	221	10	10	222	0	223	0.30	10	15	2	20	225	70F	78F	227	30%	80%	229	0ppm	1200ppm	230	N/A	N/A
4	AHU05	SF VFD	240	241	10	10	242	0	243	0.35	10	15	2	20	245	70F	78F	247	30%	80%	249	0ppm	1200ppm	250	N/A	AHU04
4	AHU06	SF VFD	260	261	10	10	262	0	263	0.20	10	15	2	20	265	70F	78F	267	30%	80%	269	0ppm	1200ppm	270	N/A	N/A

Settings to be updated by Device IA

Rotation groups to be updated by Portfolio iA

FIG. 7